Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1-17 (cancelled)

18. (currently amended) A method of simulating a missile by means of a missile simulator during testing of an aircraft which includes a weapon system for controlling missiles with which the aircraft may be equipped , the method comprising:

i) generating a target seeker command position for a target seeker in the missile, whereby the target seeker is commanded to adopt a predetermined position, wherein the target seeker is assumed to move at finite speeds and that its movement is constrained to a single plane;

ii) receiving the target seeker command position at the weapon system;

iii) simulating behavior of the missile in a computer model to generate an actual value signal adapted to the weapon system;

iv) generating in the weapon system a trouble signal from a deviation between the target seeker command position and the actual value signal, wherein the trouble signal is measured continuously and wherein sampled values for a vector indicating error in amplitude (A) and error in phase angle (φ), which represent a difference between a vector S^C corresponding to the target seeker command position and a vector S_O corresponding to the actual value signal, are determined and sent to the computer model in the missile simulator, and wherein the values for A and φ are determined by correlating the measured

results with the known desired results;

v) using the trouble signal as a control signal for the target seeker; and

vi) repeating steps iii) - v).

19. (cancelled)

20. (currently amended) The method in accordance with claim ~~19~~ 18, wherein for each trouble signal, the computer model determines a corresponding actual value signal.

21. (previously presented The method in accordance with claim 20, wherein for each trouble signal the computer model determines a new vector S^C including an amplitude and a phase angle of the new target seeker command position.

22. (previously presented) The method in accordance with claim 20, wherein a time-continuous actual value signal is reproduced from a time-discrete vector from the computer model.